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DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

*The Capacity and Utilization of Supply Routes
to North Vietnam -- January to April 1967*

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19 May 1967

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
19 May 1967

INTELLIGENCE MEMORANDUM

The Capacity and Utilization of
Supply Routes to North Vietnam, January-April 1967

Summary

The major sea and land transport connections between North Vietnam and the outside world have a capacity to accommodate imports of almost 14,000 tons of supplies a day. The major ports of Haiphong, Cam Pha and Hon Gai account for 40 percent of this total. The northeast land routes connecting North Vietnam to Kwangsi and Kwangtung provinces in China account for 35 percent and the northwest land and water routes to Yunnan Province account for the remaining 25 percent.

These estimates of capacity are conservative because of the methodologies used. In addition, the North Vietnamese have the capability, and have implemented programs, to increase these capacities dramatically. More intensive repair measures, for example, could increase the capacity of the Hanoi-Lao Cai railroad line from its presently interdicted capacity of 700 tons a day to a figure approaching its normal capacity of 3,000 tons a day. In addition, line improvements and dual-gauging of the Hanoi-Dong Dang line, which could be completed in a few months, will increase its capacity from 3,000 tons a day to at least 4,500 tons a day. Finally, the North Vietnamese have demonstrated a capability to move traffic through their ports at levels well in excess of their rated capacity of 5,500 tons a day.

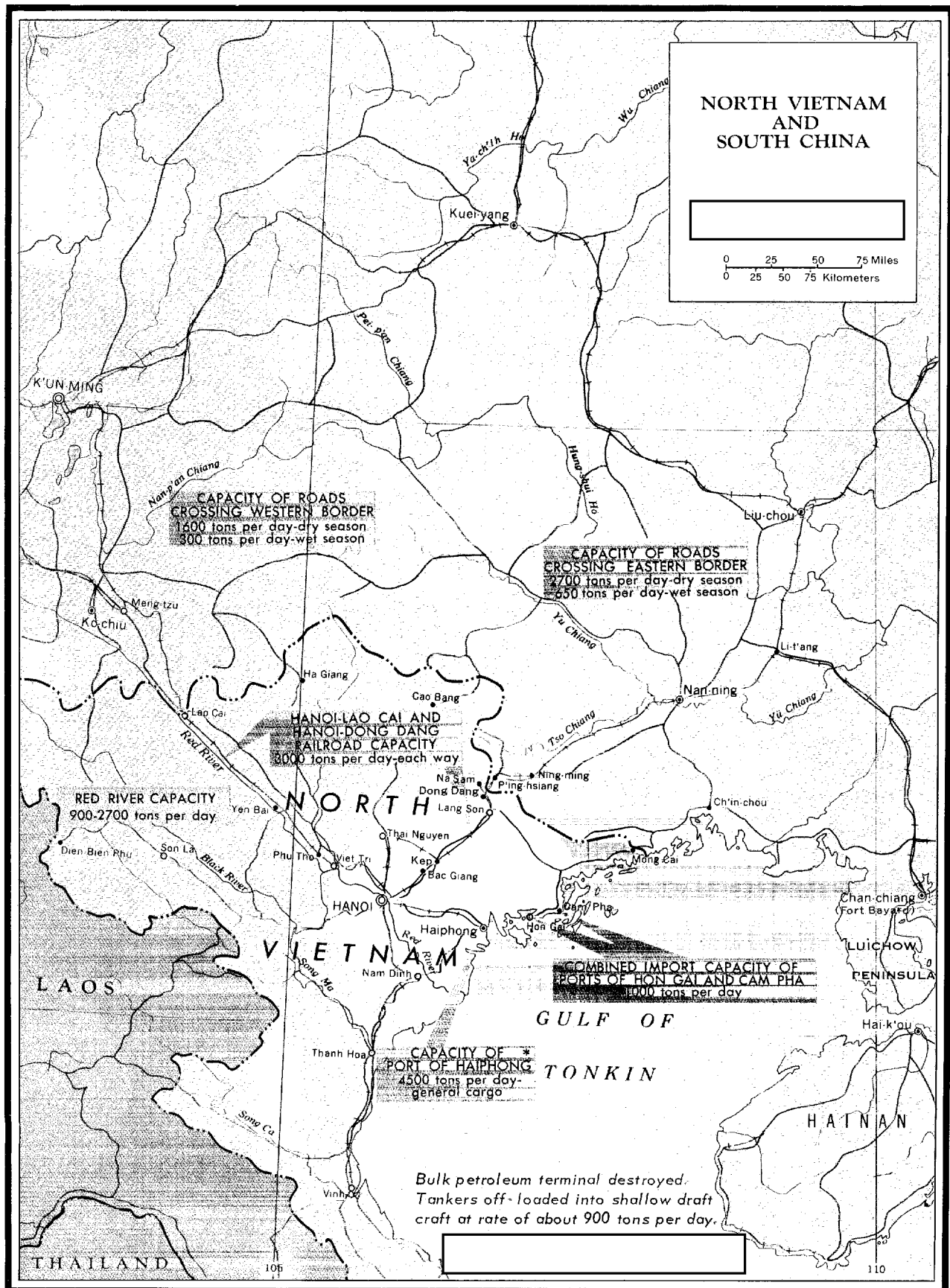
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imports by rail, all available evidence indicates that they are at least at 1966 levels. [REDACTED]

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Even imports at those levels have required the use of only one third of the capacity of North Vietnam's major land and sea routes. Full utilization of the present transport system in its moderately interdicted status would enable North Vietnam to receive imports at about three times their present level.



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North Vietnam and South China: Uninterdicted Capacity of Selected Transportation Lines, January 1967

Capacity of Supply Routes

1. North Vietnam has a total of 11 major sea and land transport connections to handle the flow of supplies from outside the country, as shown in the figure. The sea connections include the ports of Haiphong, Cam Pha and Hon Gai. All of these ports can handle deep-draft international shipping but only Haiphong is served by North Vietnam's rail network. The rail transport connections to Communist China are the Hanoi-Dong Dang and the Hanoi-Lao Cai railroad lines. In addition, there are five major road routes connecting North Vietnam to China, three in northwest crossing into Yunnan Province, and two in northeast crossing into Kwangsi Province. The Red River is the only inland waterway route that could contribute significantly to the movement of supplies from China to North Vietnam. The most significant of these routes are the connections to the port of Haiphong, which now handles from 70-80 percent of North Vietnam's import traffic, and the railroad line from Hanoi-Dong Dang. The Hanoi-Lao Cai line and the road and water connections to Communist China now handle only small amounts of the traffic moving in foreign trade.

2. These routes have the theoretical capacity to handle an estimated 13,900 tons of traffic a day. (See Table 1.) The major ports account for about 40 percent of the total capacity, land routes from Kwangsi and Kwangtung provinces in China account for 35 percent, and land and water routes from Yunnan Province account for the remaining 25 percent. The total of 13,900 tons does not include an estimate of the quantity of cargo that could be off-loaded from oceangoing ships into shallow-draft craft for movement to the beaches or to small ports. The North Vietnamese have considerable capability to handle dry cargo in this manner. They have demonstrated that they can receive petroleum from tankers in this manner at a rate of about 900 tons a day. In addition, the present theoretical capacity of the routes can be exceeded, and the total can be rather rapidly increased, as will be described below.

Ports

3. Haiphong is the principal maritime port for nearly all seaborne imports and all seaborne exports except coal. The port has a theoretical daily capacity to handle about 4,500 tons of dry cargo but has exceeded this in actual operations.*

Performance in excess of capacity is achieved by the use of floating cranes and lighters. The silting of the river channel to Haiphong has, in recent months, caused ships with drafts exceeding 25 feet to await high tides before entering the port or to lighter off portions of their cargoes before entering. This has caused occasional delays to larger vessels but has not affected the overall volume of imports through Haiphong.

4. The ports of Hon Gai and Cam Pha at present handle only one significant cargo, anthracite coal for export. Both ports have only limited wharf and storage facilities for general cargo, and surface transport to clear the port is limited to truck transport on poor quality roads. Their combined capacity to handle imports and clear the port with land transport is estimated at about 1,000 tons a day.

Railroads

5. The two rail connections between Hanoi and Communist China have an estimated total capacity of 3,700 tons each way per day. The uninterdicted capacity of the Dong Dang-Hanoi railroad, which carries most of the North Vietnamese foreign trade moved by land transport, is estimated to be 3,000 tons each way per day. Through traffic on the line was interrupted for a total of about two months during 1966 and for only about two weeks during the first four months of 1967, but some international traffic continued to move even during periods of

* Theoretical capacity assumes that cargoes are unloaded only to the wharf and exclusively by ship's gear.

interdiction. The actual traffic moved on this line during the first four months of 1967 cannot be estimated at this time. It is assumed, however, to be at least at the level estimated for 1966 or 1,300 tons per day, less than one half of the line's capacity.

6. The normal capacity of the Lao Cai-Hanoi railroad line is estimated at about 3,000 tons each way per day. The destruction by air attack of the railroad/highway bridge at Viet Tri has reduced this figure to an estimated 700 tons each way per day. Traffic at Viet Tri now utilizes two rail car ferries and a pontoon highway bridge. A third rail ferry, which is under construction, could increase capacity to 900 tons each way per day. If more capacity is needed on this line, however, the North Vietnamese with Chinese help could make temporary repairs to the bridge in a maximum of two months or restore it to its original condition in six months. Capacity could be increased in less than two months by the use of more ferries and other alternate facilities.

7. The capacities given above should be regarded as minimum figures, and may be subject to sharp upward revisions for several reasons. For one thing, the methodology used for these estimates is inherently conservative. Actual performance could be increased significantly by such measures as loading cars more heavily, expediting loading and unloading, and adopting other procedures to increase the flow of traffic. As noted above, more intensive measures to repair bomb damage to the Hanoi-Lao Cai line, could increase its capacity substantially within a short period of time. Finally, a number of improvements are being made to the Hanoi-Dong Dang line and it is being converted to dual-gauge so that it can handle standard-gauge as well as meter-gauge rolling stock. When these programs are completed, capacity of the line will be increased by at least 50 percent.

indicates that the dual-gauging has been completed from a point about 20 miles south of the Chinese border to Kep. It is

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probable that the 20 miles below the border has also been dual-gauged and is in service, but this cannot be confirmed. The standard-gauge line between Kep and Thai Nguyen was completed

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and is in service. Dual-gauging of the line from Thai Nguyen into the Hanoi area may also be complete. There is no sign, however, that a newly constructed rail yard near Hanoi, which will probably be used for standard-gauge equipment, is in use at present. The extension of dual-gauging a few more miles into the new rail yard would permit standard-gauge equipment to be used all the way from the border to the Hanoi area. Dual-gauging on the part of the Hanoi line between Kep and Hanoi can be completed in three months.

Roads and Waterways

9. The estimated total capacity of the roads that cross the border and lead to the Hanoi-Haiphong area is 4,300/950* tons per day. A little more than 60 percent of this total is accounted for by roads that cross the eastern border of North Vietnam (from the Nanning, Canton, and Fort Bayard areas) and the remainder by roads that cross the western border. The road capacity from Hanoi to Haiphong is estimated to be about 1,150/400 tons per day.

10. Before the Rolling Thunder attacks only small amounts of crossborder, short-haul foreign trade moved by truck between North Vietnam and Communist China. Use of the roads may have increased slightly during the past two years, particularly to move military supplies and construction equipment from the border, but information is not available to estimate the volume of movement. At present North Vietnam does not have enough trucks and repair facilities to utilize the roads to capacity while continuing the present level of

* The figures separated by the slanting line show estimated minimum capacities between terminal points under the best and worst climatic conditions.

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truck transport activities elsewhere. Utilizing the roads to capacity would require an additional 5,000 to 6,000 trucks daily. Communist China, with an inventory of over 200,000 trucks, could make this number available.

11. The only inland waterway route that could contribute significantly to the movement of supplies across the border between China and North Vietnam is the Red River. Few if any imports are moved on this route at present. It is estimated to have the capability for 900 tons a day during low water and 2,700 tons a day during high water.

Level and Nature of Traffic

12. During the first four months of 1967 supplies have been moving into North Vietnam at record levels. We are unable to quantify precisely the volume of traffic moving into North Vietnam by rail but estimate that from January-April 1967 it was at least 150,000 tons. This level of traffic amounts to 1,300 tons a day or only 43 percent of the capacity of the Hanoi-Dong Dang line. Import traffic on the other land routes is estimated to be negligible.



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Rail Traffic

14. It is not possible to estimate or to identify precisely the commodity breakdown of the goods now moving over the Hanoi-Dong Dang railroad line. On the basis of limited evidence it is

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estimated that military supplies account for 40 percent, and economic goods account for 60 percent of the traffic moving on this line.

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Table 1

North Vietnam: Transport Capacity of Major
Import Routes as of April 1967 a/

	Tons Per Day		
	<u>Dry Season</u>	<u>Rainy Season</u>	<u>Annual Average b/</u>
Total	14,400 =====	12,900 =====	13,900 =====
Major ports <u>c/</u>	<u>5,500</u>	<u>5,500</u>	<u>5,500</u>
Haiphong	4,500	4,500	4,500
Hon Gai and Cam Pha	1,000	1,000	1,000
Routes from Kwangsi and Kwangtung	<u>5,700</u>	<u>3,650</u>	<u>5,000</u>
Dong Dang - Hanoi Railroad	3,000	3,000	3,000
Roads	2,700	650	2,000
Routes from Yunnan	<u>3,200</u>	<u>3,700</u>	<u>3,400</u>
Lao Cai - Hanoi Railroad	700	700	700
Roads	1,600	300	1,200
Red River	900	2,700	1,500

- These estimates do not include amounts that could be offloaded from ocean-going ships into shallow-draft craft and moved to inland ports or coastal ports other than Haiphong or moved over the beaches. Also no estimate is included of the amount that could be moved directly from South China ports to minor ports and beaches in North Vietnam by shallow-draft craft.
- The dry season during which road conditions are at their best extends from about October through May. Heavy rains, beginning about May in the northern part of North Vietnam, reduce road capacity until late September. The annual average has been computed using a four-month (June-September) rainy season and an eight-month dry season.
- Theoretical dry-cargo handling capacity at the docks and assuming that no exports would be handled.

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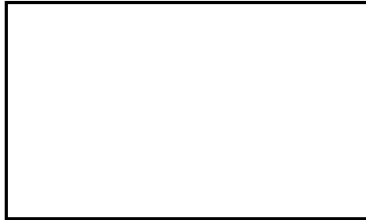
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19 May 1967

MEMORANDUM FOR: The Honorable Robert S. McNamara
The Secretary of Defense

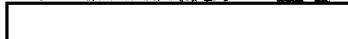
SUBJECT : Status of North Vietnamese
Supply Routes

In response to a request made last week, Mr. Helms has directed me to send you the attached memorandum, which focuses on the present capacity and utilization of North Vietnam's external supply lines.

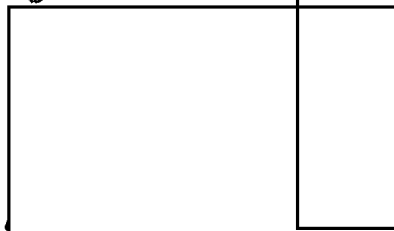
/s/ R. J. Smith

R. J. SMITH
Deputy Director for Intelligence

Attachment: a/s

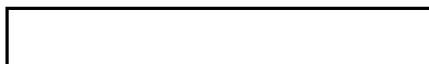


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DDI/OCI/[redacted] /vch (19 May 67)

Identical Memos Sent to: See Reverse



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The Honorable Walt W. Rostow
Special Assistant to the President
The White House [REDACTED]

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The Honorable Dean Rusk
The Secretary of State [REDACTED] (Thomas L. Hughes)

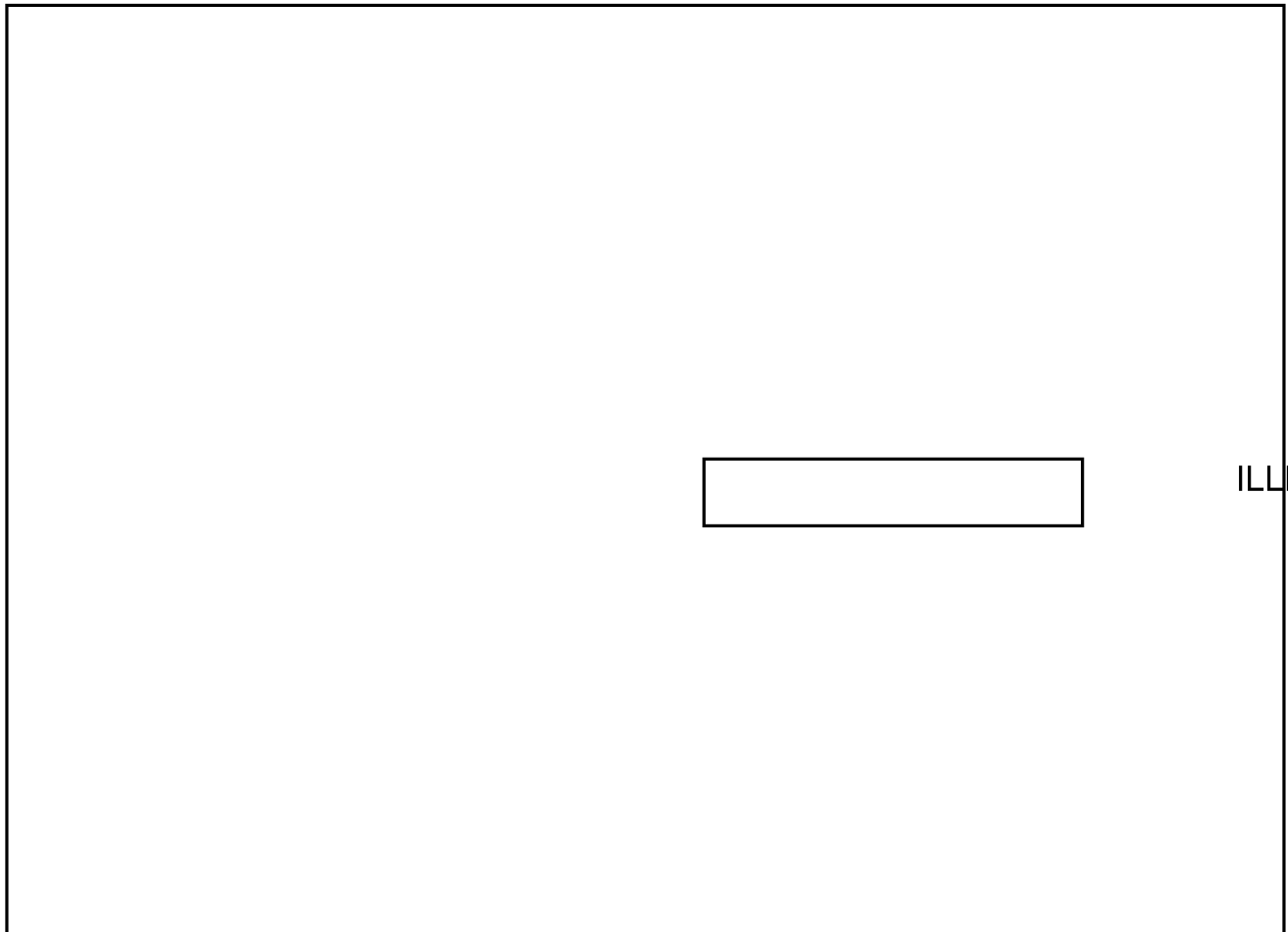
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General Earle G. Wheeler, USA
Chairman, Joint Chiefs of Staff
Department of Defense [REDACTED] Lt. General Joseph F. Carroll

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The Honorable William P. Bundy
Assistant Secretary
Bureau of East Asian and Pacific Affairs
Department of State [REDACTED]

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